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Effects of Novel Coronavirus (COVID-19) on Civil Aviation: Economic Impact Analysis

Montréal, Canada

28 March 2020





- **Introduction, background and situation overview**
- **Global level analysis**
- **State/territory level scenario analysis**
 - China (including Hong Kong and Macao SARs of China and Taiwan, Province of China)
 - Republic of Korea
 - Italy
 - Iran (Islamic Republic of)
 - Appendix: Scenario assumptions



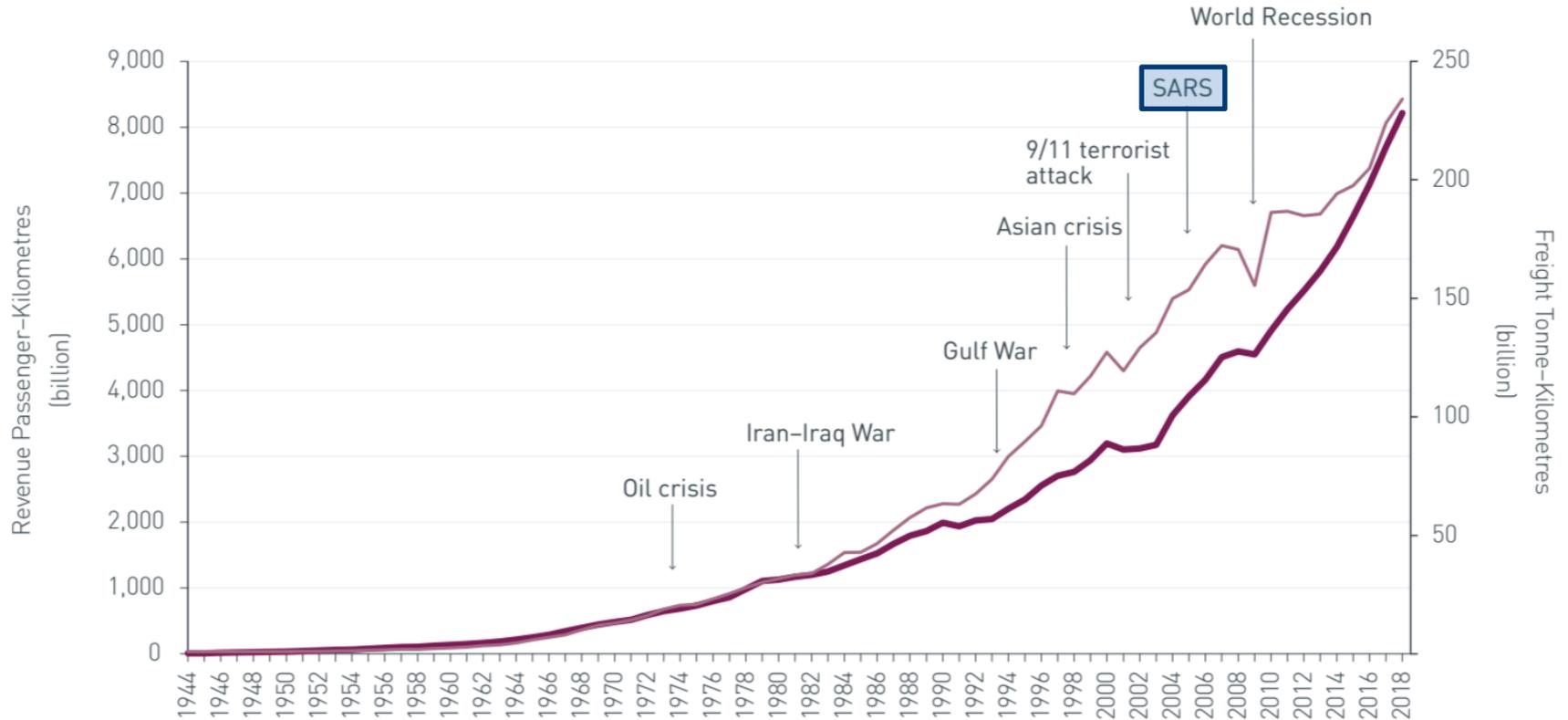
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Introduction, Background and Situation Overview

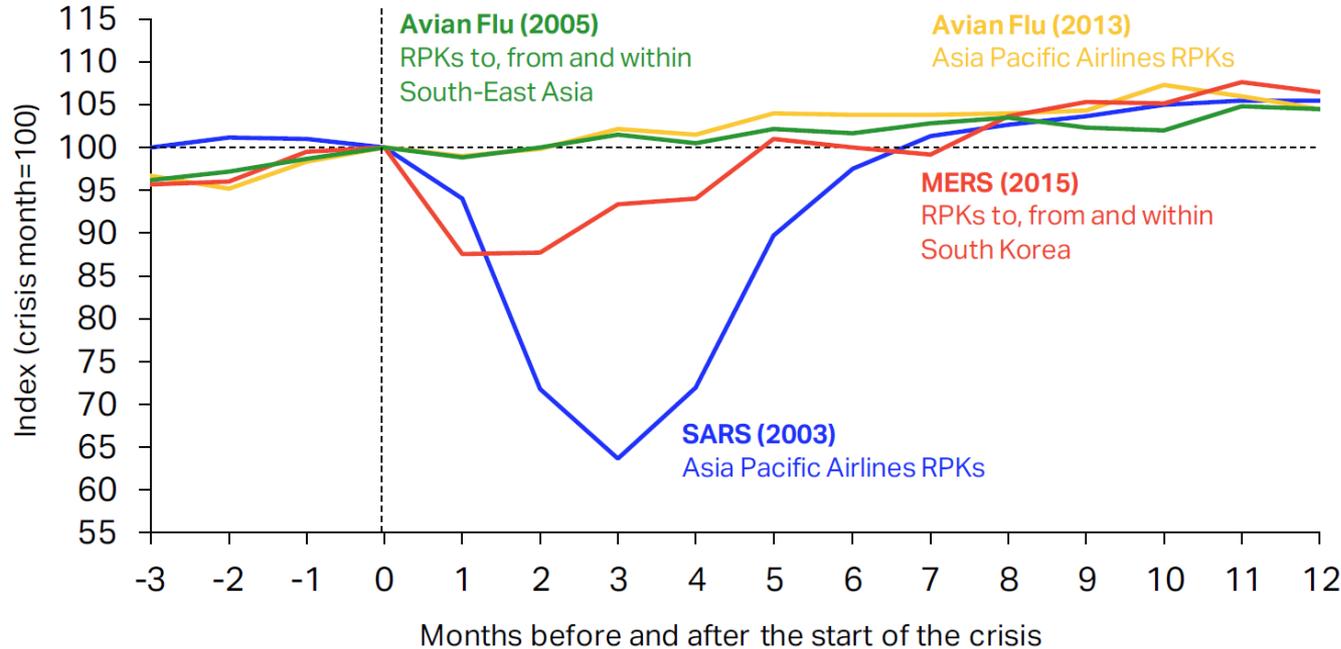


Air traffic has been vulnerable to external factors including disease outbreaks



Previous outbreaks/pandemics had a V-shape impact on aviation

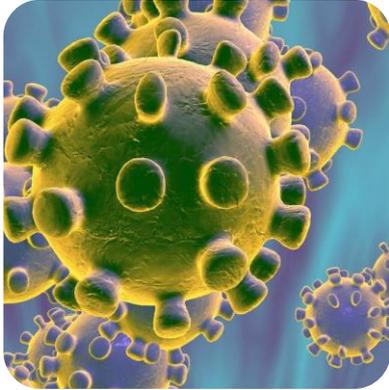
Impact of past outbreaks on aviation



History shows that SARS has the most serious impact on traffic. At the height of the outbreak (May 2003), monthly RPKs of Asia-Pacific airlines were 35% lower than their pre-crisis levels. Overall in 2003, Asia-Pacific airlines lost **8% of annual RPKs** and **\$6 billion of revenues**.

Source: IATA Economics

Disease outbreak directly impacts air traffic and revenues of aviation industry



Number of cases / countries affected

- Flights cancellations
- Aircraft groundings
- Travel bans
- Border closures

Traffic decline

- Fewer flights
- Lower load factors
- Impact on yield

Revenue loss

- Proportionate to traffic loss
- Decline in unit revenues, especially in non-aeronautical (airports)



COVID-19 outbreak has impacted air traffic for China starting from late January 2020



Note: The above includes a) international from mainland China, Hong Kong SAR of China, Macao SAR of China, Taiwan, Province of China; b) domestic within mainland China, and c) regional between mainland China and Hong Kong SAR, Macao SAR and Taiwan Province



A surge of COVID-19 confirmed cases occurred in several States by late February 2020

February 2020 International passenger seat capacity

Country/Territory	Capacity change from originally-planned	
China	- 10,532,200	-61%
Hong Kong SAR of China (CN)	- 2,363,300	-36%
Republic of Korea	- 1,717,100	-19%
Japan	- 1,592,400	-15%
Thailand	- 1,452,500	-15%
Taiwan, Province of China (CN)	- 1,446,700	-23%
Singapore	- 807,600	-12%
Viet Nam	- 731,900	-16%
Macao SAR of China (CN)	- 721,500	-64%
Philippines	- 646,100	-18%
United States	- 620,300	-3%
Malaysia	- 448,200	-8%
Indonesia	- 426,100	-10%
Russian Federation	- 317,900	-5%
Cambodia	- 277,900	-21%
Turkey	- 277,800	-4%
Italy	- 268,800	-3%
United Arab Emirates	- 252,900	-2%
Australia	- 241,300	-5%
United Kingdom	- 188,900	-1%
Iran Islamic Republic of	- 169,800	-18%
France	- 158,000	-1%
Myanmar	- 147,500	-21%
Germany	- 145,600	-1%
India	- 116,800	-2%
Morocco	- 108,200	-5%
Qatar	- 99,300	-2%
Canada	- 96,200	-1%
Lao People's Democratic Republic	- 71,900	-21%
Finland	- 71,400	-4%
World total	- 27,747,600	-8%

February 2020 excluding from/to China, Iran, Italy and Korea

Country/Territory	Capacity change from originally-planned	
Turkey	- 198,068	-3%
Singapore	- 167,046	-3%
Russian Federation	- 163,237	-3%
Malaysia	- 121,931	-3%
Indonesia	- 116,273	-3%
Morocco	- 85,922	-4%
United Kingdom	- 83,417	0%
France	- 68,186	-1%
Iraq	- 67,359	-9%
Thailand	- 64,123	-1%
Viet Nam	- 60,708	-3%
United States	- 52,419	0%
Lebanon	- 51,639	-7%
Libya	- 50,977	-27%
Qatar	- 39,735	-1%
Tunisia	- 35,473	-5%
Saudi Arabia	- 30,901	-1%
Czechia	- 28,105	-2%
Puerto Rico (US)	- 26,854	-2%
Cambodia	- 26,018	-4%
Finland	- 23,399	-1%
Jordan	- 22,697	-3%
South Africa	- 21,734	-2%
Romania	- 20,729	-1%
Denmark	- 19,692	-1%
Algeria	- 19,020	-2%
Israel	- 18,776	-1%
Greece	- 16,930	-1%
Poland	- 16,860	-1%
Uzbekistan	- 16,113	-4%
World total	- 1,758,542	-1%

In February 2020, international passenger capacity reduced by 8%, mainly related to traffic from/to States experiencing an early outbreak



*: Coronavirus Disease 2019 (COVID-19) Situation Report by WHO (29 February 2020)



COVID-19 Pandemic was declared and accelerating in March 2020

In March 2020, international passenger capacity so far reduced by 32%, with significant reduction not only in States experiencing an early outbreak but also at the global scale.

March 2020 International passenger seat capacity

Country/Territory	Capacity change from originally-planned	
China	- 14,734,300	-82%
Italy	- 6,852,300	-60%
Republic of Korea	- 6,511,100	-70%
Japan	- 5,686,700	-50%
Germany	- 5,331,200	-28%
Hong Kong SAR of China (CN)	- 5,305,300	-76%
United States	- 4,617,500	-18%
Thailand	- 4,451,400	-45%
United Kingdom	- 4,261,200	-19%
Taiwan, Province of China (CN)	- 4,026,700	-62%
Spain	- 3,289,600	-23%
Singapore	- 3,172,100	-43%
United Arab Emirates	- 3,106,000	-24%
France	- 2,839,300	-22%
Turkey	- 2,769,000	-34%
Viet Nam	- 2,564,200	-55%
Malaysia	- 2,424,100	-41%
India	- 1,926,300	-27%
Saudi Arabia	- 1,734,900	-31%
Philippines	- 1,626,200	-44%
Switzerland	- 1,567,900	-26%
Indonesia	- 1,402,000	-32%
Canada	- 1,125,900	-15%
Austria	- 1,119,300	-28%
Russian Federation	- 1,081,500	-18%
Australia	- 1,058,200	-23%
Netherlands	- 1,027,200	-14%
Belgium	- 1,000,500	-29%
Qatar	- 968,400	-20%
Portugal	- 948,100	-22%
World total	- 121,831,580	-32%

March 2020 excluding from/to China, Iran, Italy and Korea

Country/Territory	Capacity change from originally-planned	
Germany	- 4,277,933	-25%
United Kingdom	- 3,387,241	-16%
United States	- 3,217,641	-14%
Spain	- 2,599,048	-20%
United Arab Emirates	- 2,465,717	-20%
Turkey	- 2,277,434	-31%
France	- 2,106,010	-18%
Singapore	- 2,031,900	-35%
Thailand	- 1,744,454	-29%
Saudi Arabia	- 1,712,474	-30%
India	- 1,643,127	-24%
Malaysia	- 1,537,179	-33%
Switzerland	- 1,380,332	-24%
Indonesia	- 986,192	-27%
Austria	- 966,037	-26%
Japan	- 935,256	-20%
Canada	- 871,795	-12%
Portugal	- 812,785	-20%
Denmark	- 807,531	-25%
Netherlands	- 789,914	-12%
Poland	- 788,164	-21%
Israel	- 788,068	-39%
Belgium	- 781,479	-26%
Viet Nam	- 754,856	-34%
Qatar	- 714,608	-16%
Egypt	- 707,091	-25%
Sweden	- 673,186	-22%
Morocco	- 638,169	-28%
Russian Federation	- 631,076	-12%
Australia	- 619,167	-16%
World total	- 58,262,776	-20%

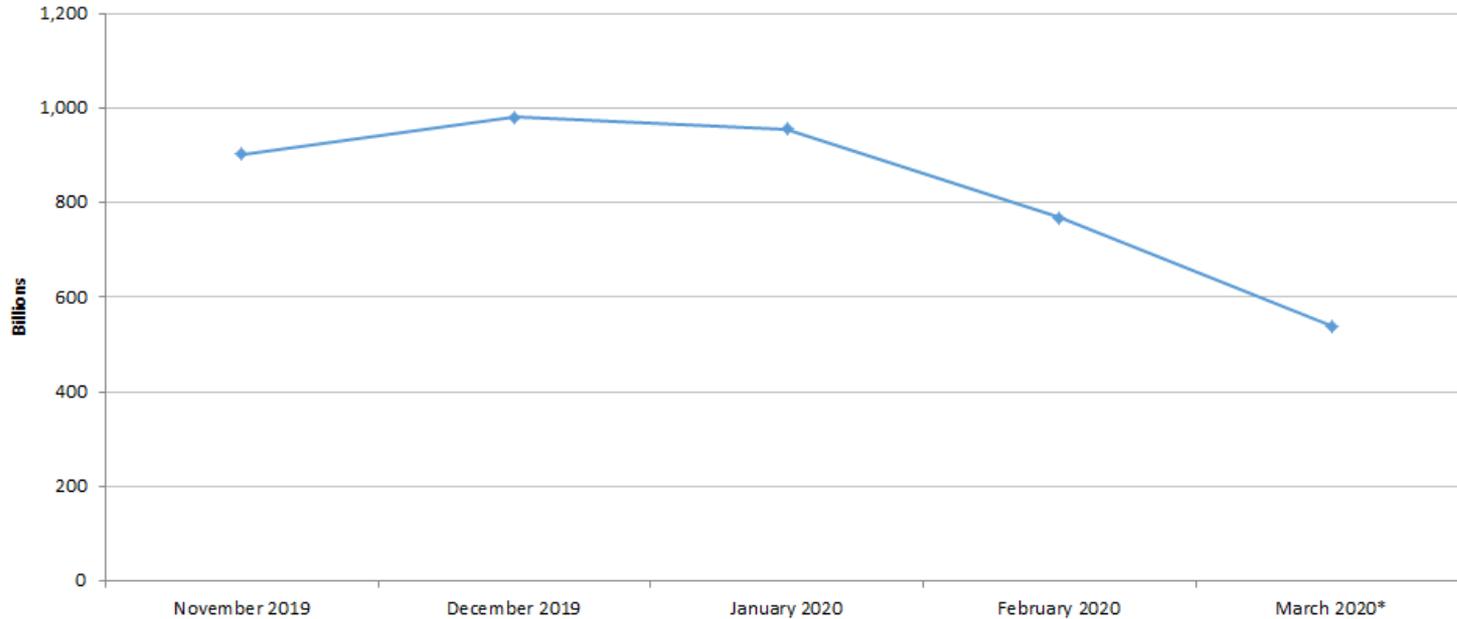
	State/Territory with 100 or more confirmed cases*
	State/Territory with 1,000 or more confirmed cases*
	State/Territory with 10,000 or more confirmed cases*

*: Coronavirus Disease 2019 (COVID-19) Situation Report by WHO (24 March 2020)



Air traffic reduction no longer limited to initial outbreak countries

Available seat kilometres (ASKs, international and domestic)

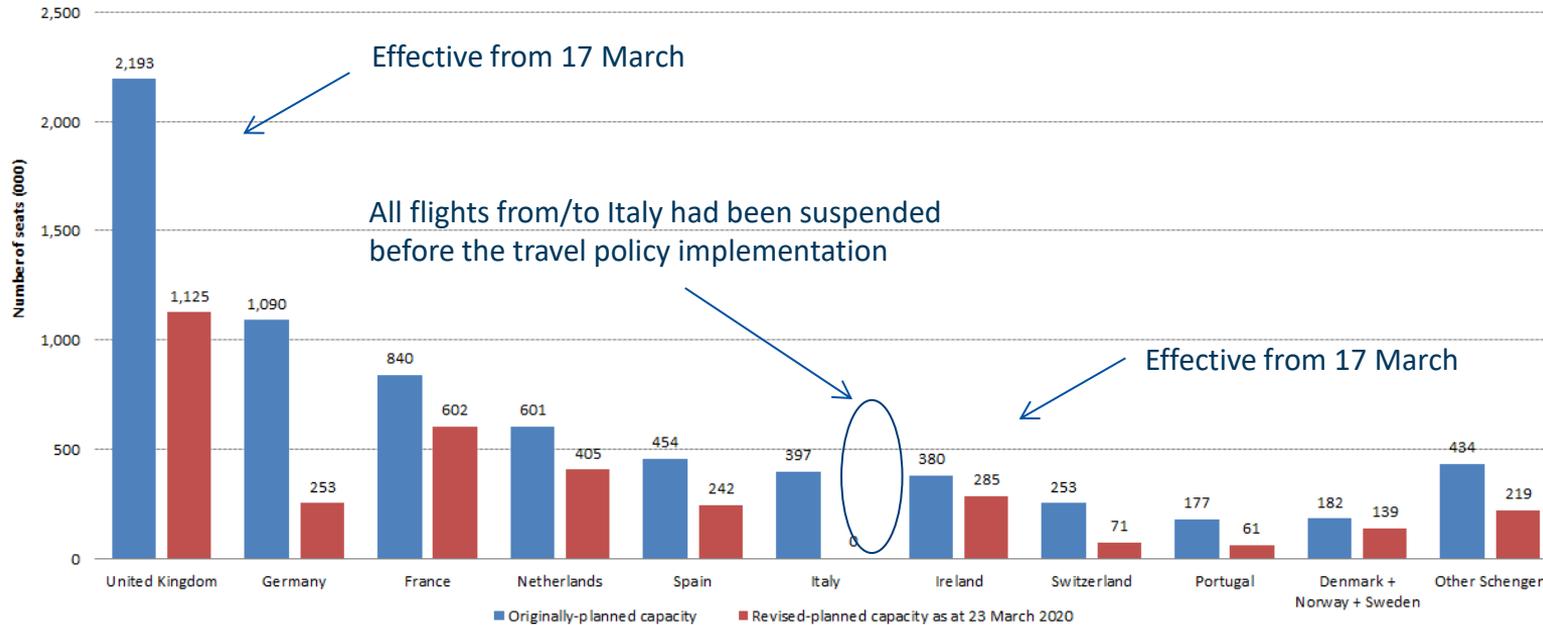


Note: March 2020 data is up till 21 March 2020



Drastic reduction in air traffic amplified by travel restrictions amid COVID-19 outbreak

International passenger capacity between U.S. and Schengen Area + UK/Ireland
(for 30 days from 14 March with entry restrictions by the U.S. travel policy announced on 10 March 2020)



51% capacity reduction so far since the announcement of U.S. travel policy, affecting a maximum of approx. **5.5 million passengers** for one month if all the flights were suspended



Global Level Analysis

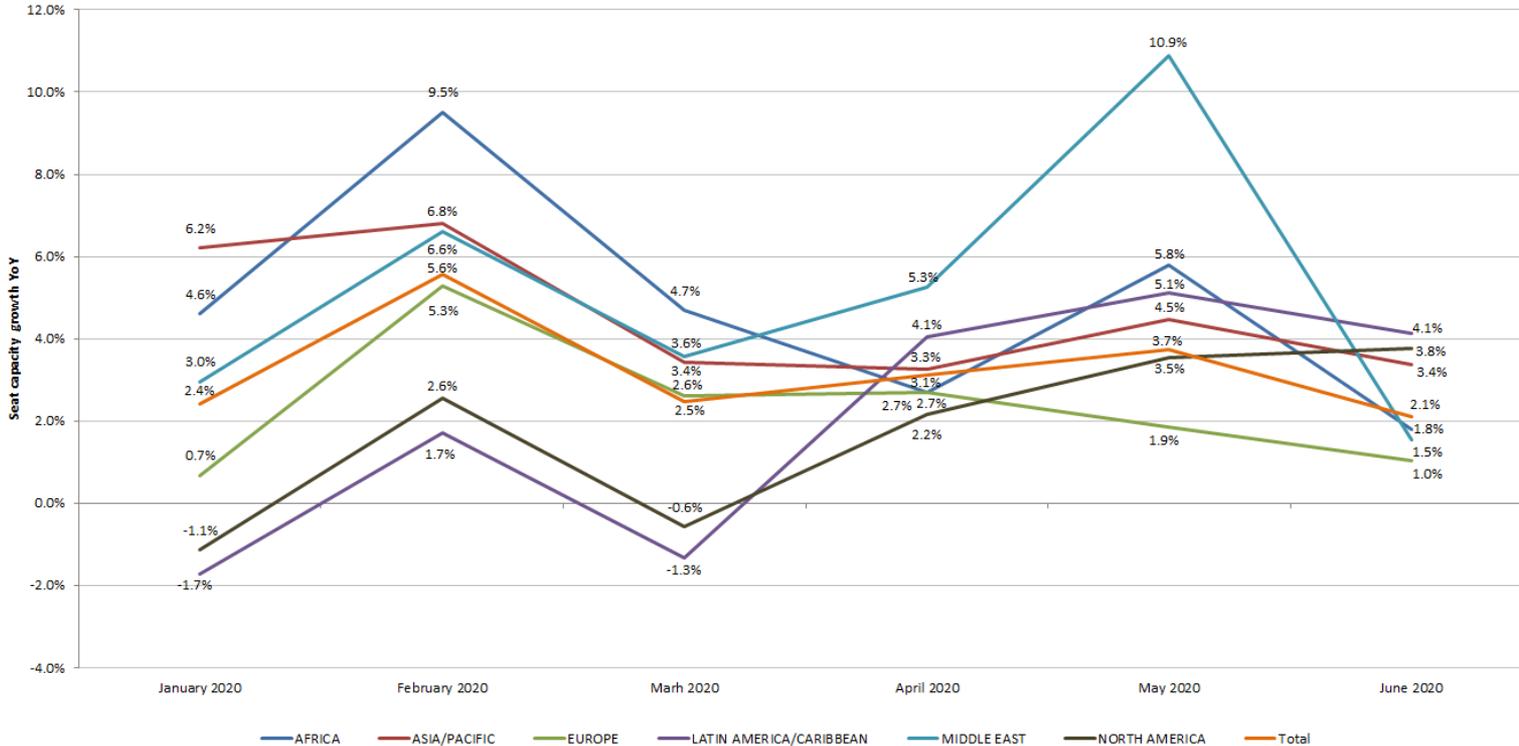
Global level analysis presented here is still **very preliminary and subject to substantial changes.**
More robust, comprehensive analysis with the extension till 2Q 2020 will be available shortly.



- Scope of analysis:
 - scheduled international passenger traffic worldwide
 - regional breakdown
 - first half of year 2020 (1Q and 2Q 2020)
- Three scenarios to measure the impact of COVID-19 outbreak:
 - **Baseline (hypothetical situation without COVID-19 outbreak)** built using "originally-planned" schedules of airlines and 2019 level of load-factor
 - **Scenario 1 (V-shaped, quick recovery from May 2020)**
 - **Scenario 2 (U-shaped, prolonged contraction continuing to June 2020)**



Baseline: 3% seat capacity increase (year-on-year) globally for first half 2020



A total of YoY 3% seat capacity increase originally -planned for 1Q 2020 (scheduled international passenger set number)



Over 50% drop in passenger seat capacity in Asia/Pacific, followed by Middle East and Europe

International passenger seat capacity: originally-planned (baseline) vs. actual (estimated)

Region	January 2020	February 2020	March 2020
AFRICA	-0.2%	-2.5%	-22.7%
ASIA/PACIFIC	-0.1%	-22.3%	-52.1%
EUROPE	-0.2%	-1.4%	-25.6%
LATIN AMERICA/CARIBBEAN	-0.1%	0.6%	-11.3%
MIDDLE EAST	-0.3%	-2.1%	-27.5%
NORTH AMERICA	0.0%	-2.4%	-16.7%
Total	-0.1%	-7.9%	-31.7%
Originally-planned capacity	376,027,900	352,632,800	384,162,700
Actual capacity (estimated)	375,495,100	324,885,300	262,331,100



Air passenger demand has been falling by more than capacity cut

International passenger number: originally-planned (baseline) vs. actual (estimated)

Region	Scenario 1			Scenario 2		
	January 2020	February 2020	March 2020	January 2020	February 2020	March 2020
AFRICA	-0.6%	-2.9%	-33.5%	-0.6%	-2.9%	-33.5%
ASIA/PACIFIC	-0.4%	-26.2%	-58.4%	-0.4%	-28.3%	-59.4%
EUROPE	2.2%	1.0%	-34.6%	2.2%	1.0%	-34.9%
LATIN AMERICA/CARIBBEAN	0.2%	0.9%	-22.2%	0.2%	0.9%	-22.2%
MIDDLE EAST	4.3%	2.1%	-37.4%	4.4%	2.0%	-37.6%
NORTH AMERICA	1.2%	-1.2%	-26.8%	1.2%	-1.2%	-26.8%
Total	1.1%	-7.7%	-40.2%	1.2%	-8.3%	-40.7%

Note 1: Scenarios 1 and 2 are based on the State-level analysis of China (Hong Kong SAR of China, Macao SAR of China and Taiwan, Province of China), Republic of Korea, Italy and Iran (Islamic Republic of)

Note 2: In calculating the number of passengers, it is assumed that “originally-planned” load factor for 1Q 2020 is the same as 1Q 2019 results; and “actual” load factor in January 2020 is a reported result (February and March are ICAO’s preliminary estimates)



Globally, USD 17 billion loss of airline passenger revenues for 1Q 2020 compared to Baseline

Gross passenger revenues: originally-planned (baseline) vs. actual (estimated)

(USD, million)	Scenario 1			Scenario 2		
	January 2020	February 2020	March 2020	January 2020	February 2020	March 2020
AFRICA	-20	-60	-830	-20	-60	-830
ASIA/PACIFIC	-50	-2,580	-6,540	-50	-2,780	-6,640
EUROPE	270	110	-4,370	270	110	-4,390
LATIN AMERICA/CARIBBEAN	0	20	-540	0	20	-540
MIDDLE EAST	180	90	-1,500	180	90	-1,500
NORTH AMERICA	60	-60	-1,390	60	-60	-1,390
Total	450	-2,480	-15,160	450	-2,680	-15,300

Note 1: The above revenues are gross passenger operating revenues of all airlines serving international routes from each country and territory, which are aggregated at the regional level (revenues of international routes to each country and territory were removed to avoid double counting)

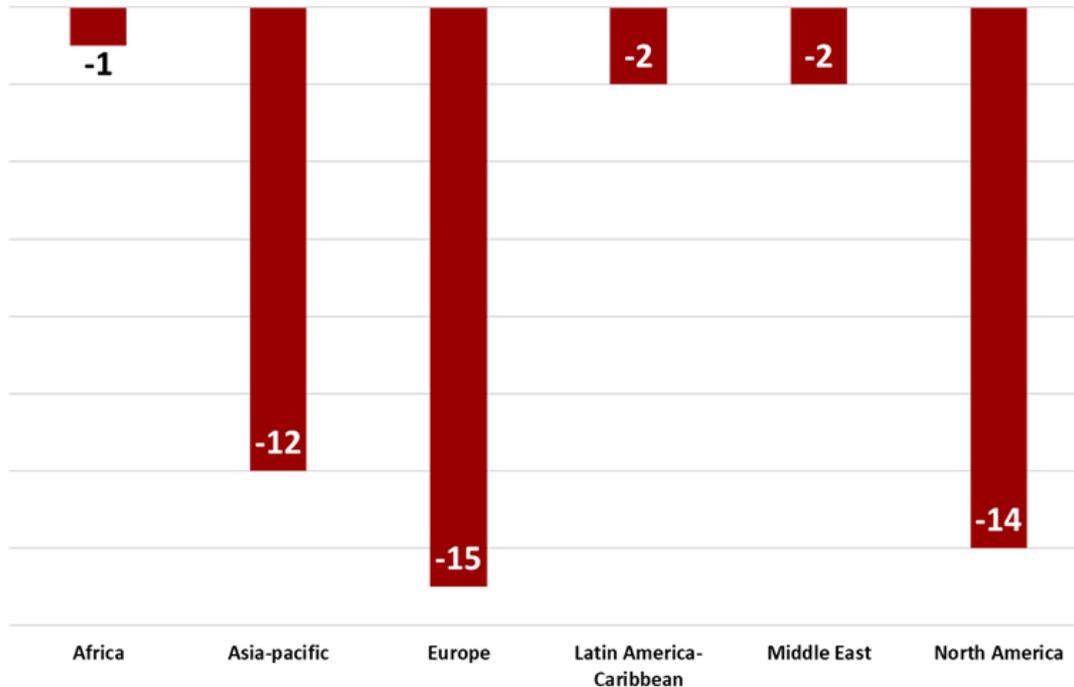
Note 2: Scenarios 1 and 2 are based on the State-level analysis of China (Hong Kong SAR of China, Macao SAR of China and Taiwan, Province of China), Republic of Korea, Italy and Iran (Islamic Republic of)

Note 3. Revenues were calculated using yield and average trip distance collected by and reported to ICAO, supplemented by IATA data



Airport may lose approx. USD 46 billion for 2020 (estimated by ACI)

Potential losses for 2020 (billions USD)



Total airport industry losses:
> USD 46 billion

Decline in industry revenues:
>25%



State/Territory Level Scenario Analysis

**Figures and estimates herein will be updated
with the situation evolving and more information available.**

Estimated impact on 4 States with the highest number of confirmed cases*

Three scenarios to measure the impact of COVID-19 outbreak:

- ❑ **Baseline:** hypothetical situation without COVID-19 outbreak
- ❑ **Scenario 1:** V-shaped, quick recovery from May 2020
- ❑ **Scenario 2:** U-shaped, prolonged contraction continuing to June 2020

Estimated impact of COVID-19 outbreak on scheduled **international passenger** traffic during **first half 2020** compared to originally-planned:

- **China (including Hong Kong/Macao SARs and Taiwan Province):** 53 to 63% seat capacity reduction, 80 to 96 million passenger reduction, USD 18.1 to 21.8 billion loss of gross operating revenues of airlines from/to the country
- **Republic of Korea:** 44 to 54% seat capacity reduction, 22 to 28 million passenger reduction, USD 4.5 to 5.6 billion loss of gross operating revenues of airlines from/to the country
- **Italy:** 46 to 58% seat capacity reduction, 31 to 39 million passenger reduction, USD 3.8 to 4.8 billion loss of gross operating revenues of airlines from/to the country
- **Iran (Islamic Republic of):** 39 to 49% seat capacity reduction, 2.2 to 2.8 million passenger reduction, USD 350 to 450 million loss of gross operating revenues of airlines from/to the country

* Coronavirus Disease 2019 (COVID-19) Situation Report by WHO as of 15 March 2020



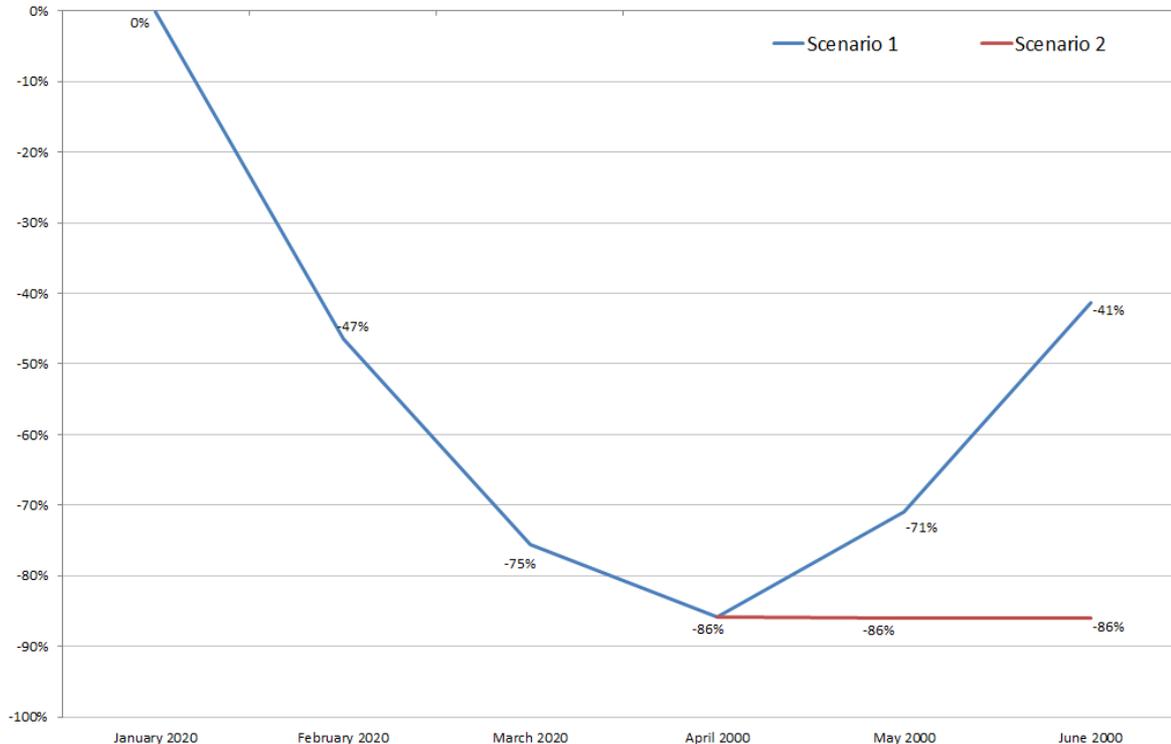
China

The estimates indicate the impact in terms of scheduled international passenger traffic from/to China (including Hong Kong SAR of China, Macao SAR of China, Taiwan, Province of China, and cross-strait services) during first half 2020 compared to originally-planned:

- Overall reduction of **53 to 63% of seats offered by airlines**
- Overall reduction of **80 to 96 million passengers**
- Approx. **USD 18.1 to 21.8 billion potential loss** of gross operating revenues of airlines



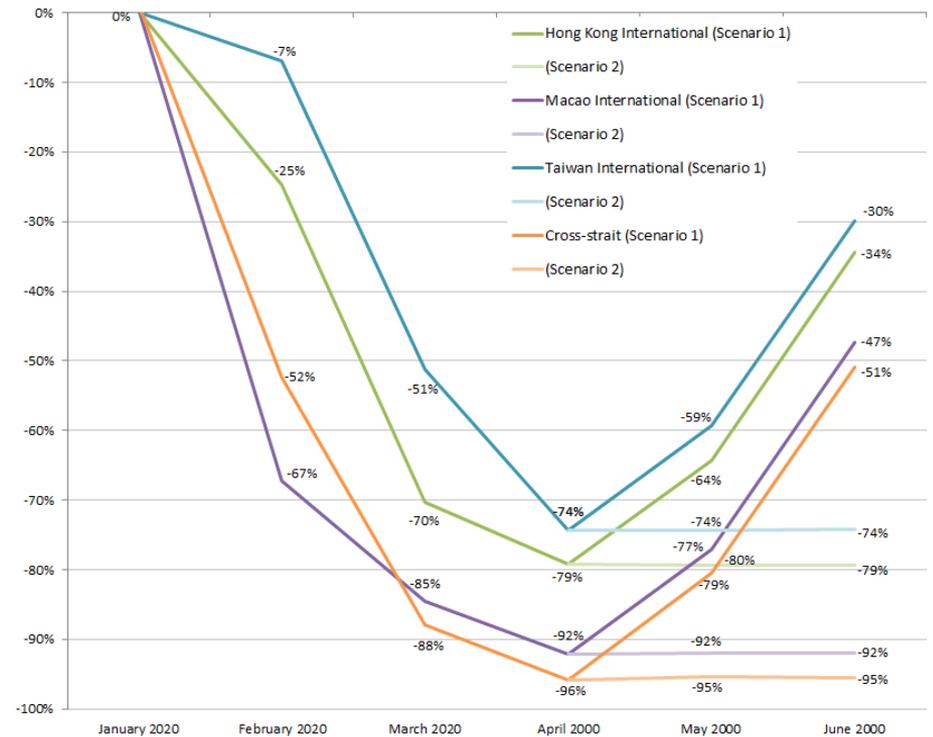
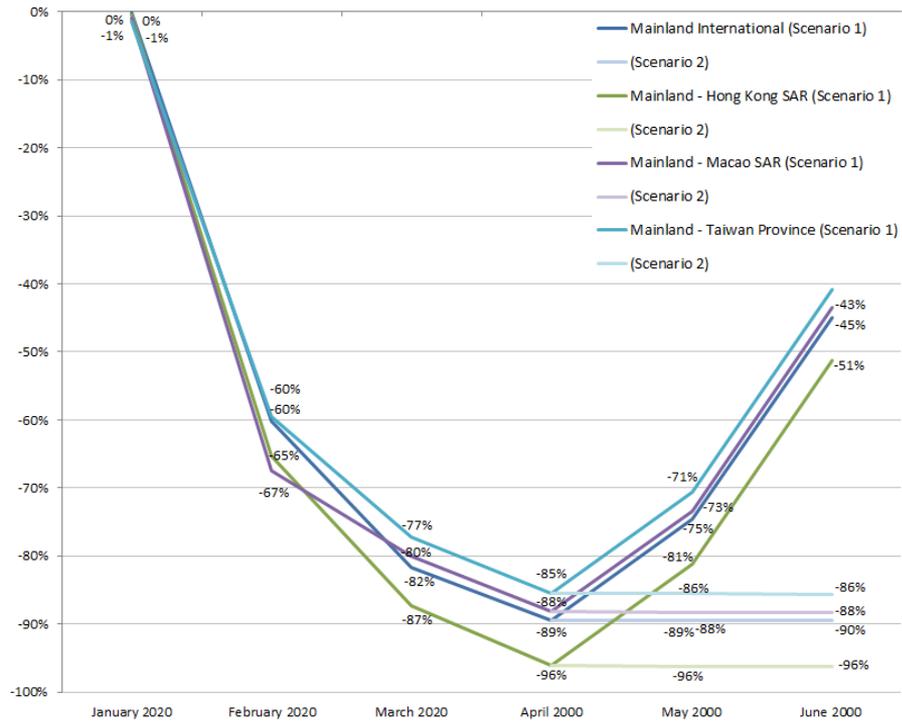
A total of 53 to 63 % seat capacity reduction in first half 2020 from Baseline



- **“Mainland International”** refers to scheduled international passenger services from/to mainland China, excluding “Regional”, “Hong Kong International”, “Macao International”, “Taiwan International” and “Cross-Strait”
- **“Regional”** refers to scheduled passenger services between mainland China and Hong Kong SAR of China, between mainland China and Macao SAR of China, and between mainland China and Taiwan, Province of China
- **“Hong Kong International”** refers to scheduled international passenger services from/to Hong Kong Special Administrative Region (SAR) of China excluding “Regional” and “Cross-Strait”
- **“Macao International”** refers to scheduled international passenger services from/to Macao SAR of China, excluding “Regional” and “Cross-Strait”
- **“Taiwan International”** refers to scheduled international passenger services from/to Taiwan, Province of China, excluding “Regional” and “Cross-Strait”
- **“Cross-Strait”** refers to scheduled passenger services among Hong Kong SAR of China, Macao SAR of China and Taiwan, Province of China, excluding “Regional”

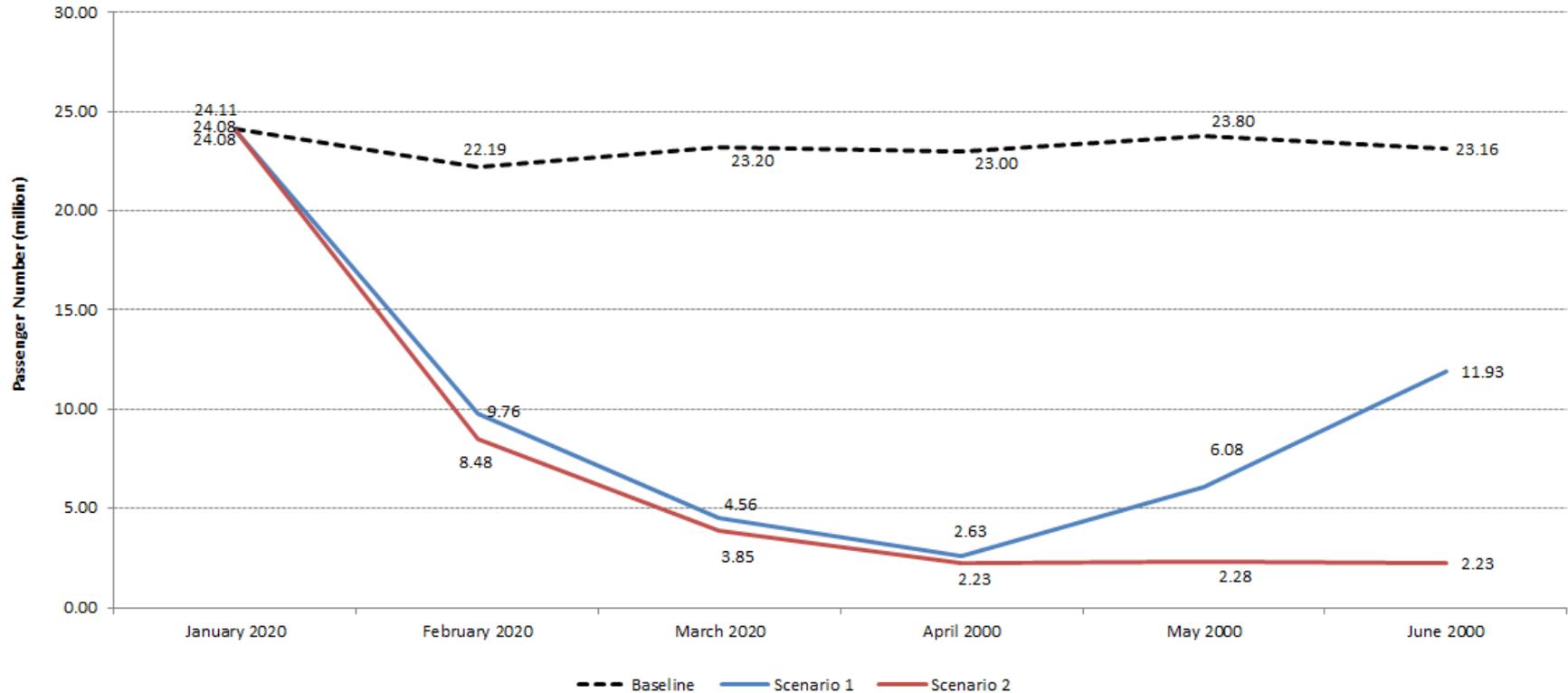


Break-down of seat capacity by route



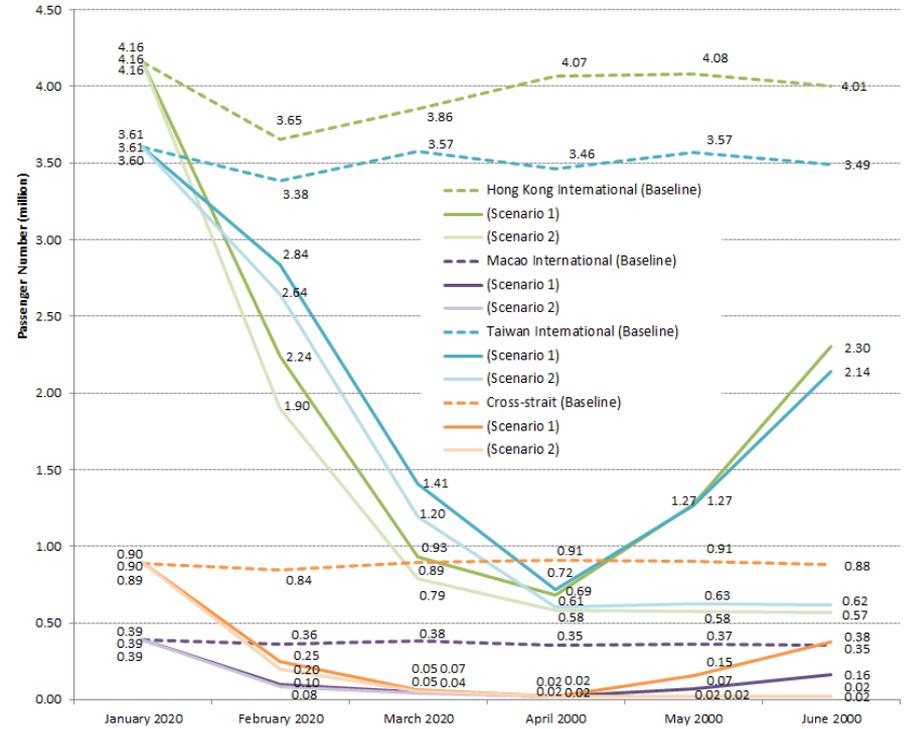
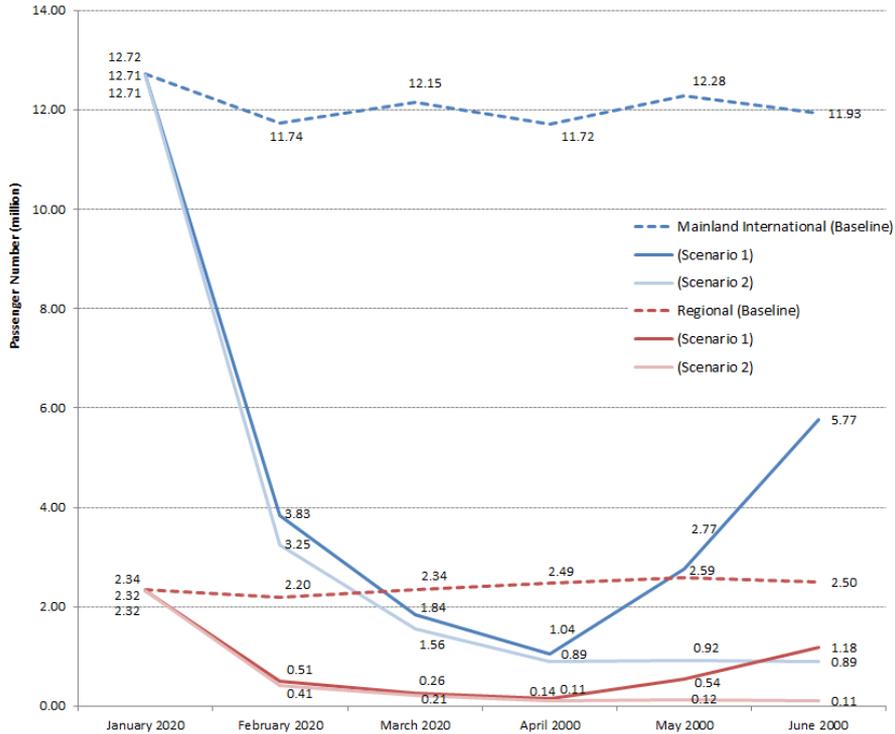


A total of 80 to 96 million passenger reduction in first half 2020 compared to Baseline



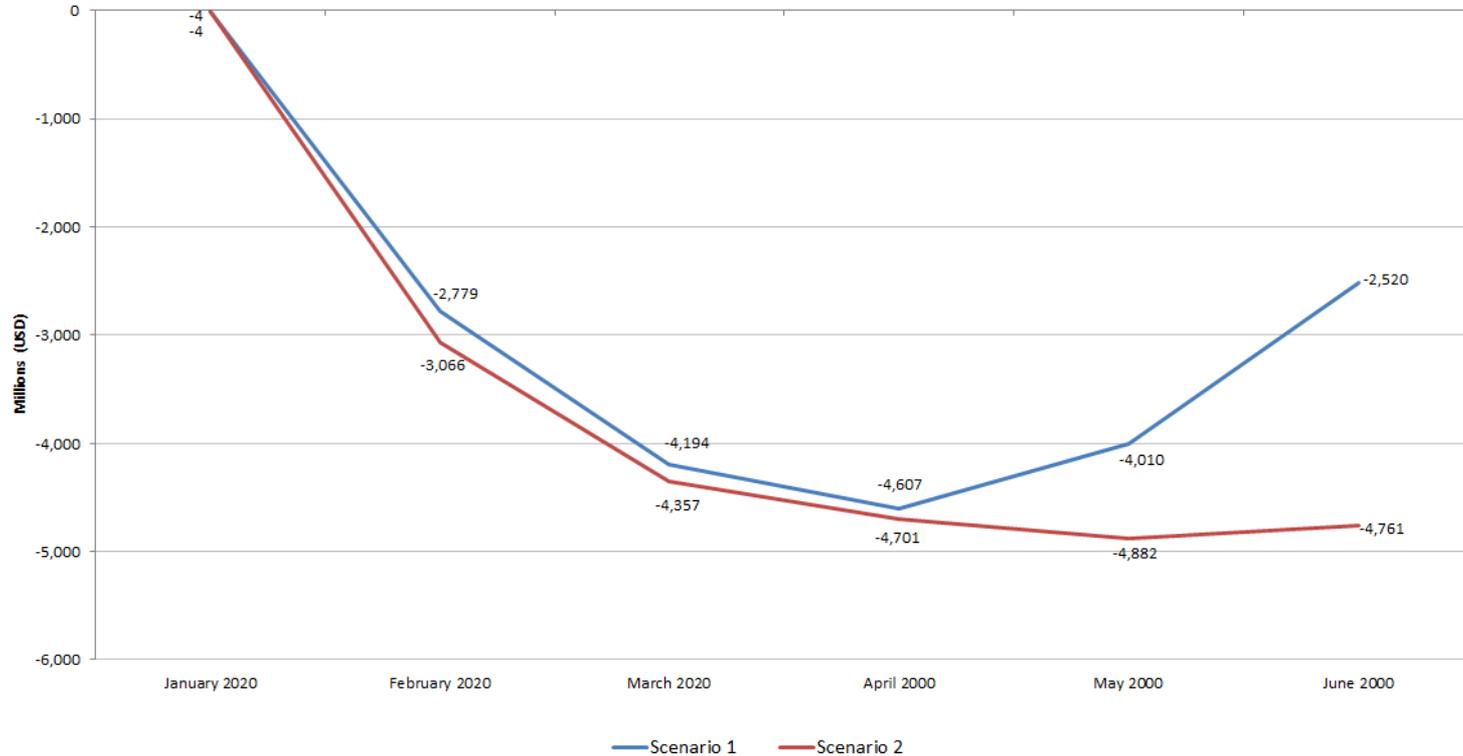


Break-down of passenger number by route





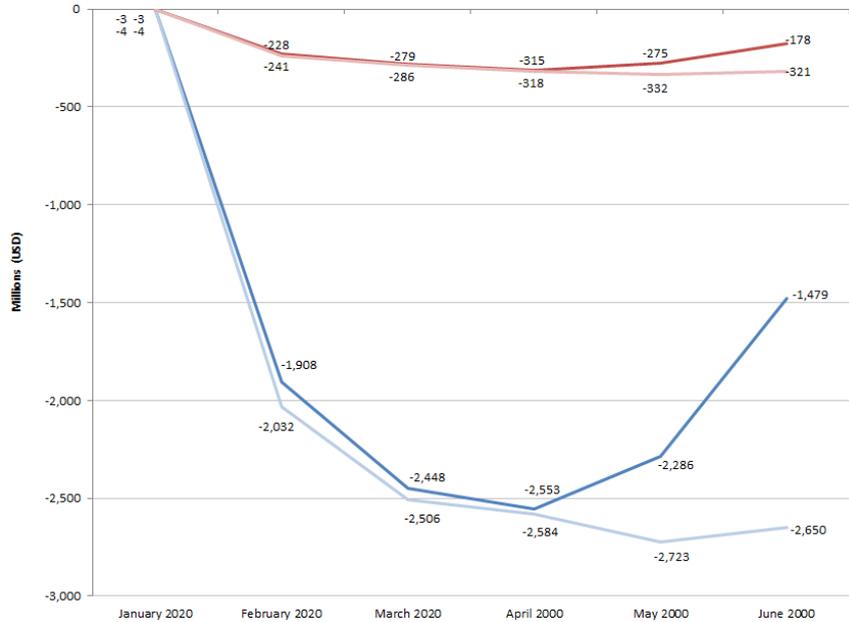
Approx. USD 18.1 to 21.8 billion loss of airline revenues in first half 2020 compared to Baseline



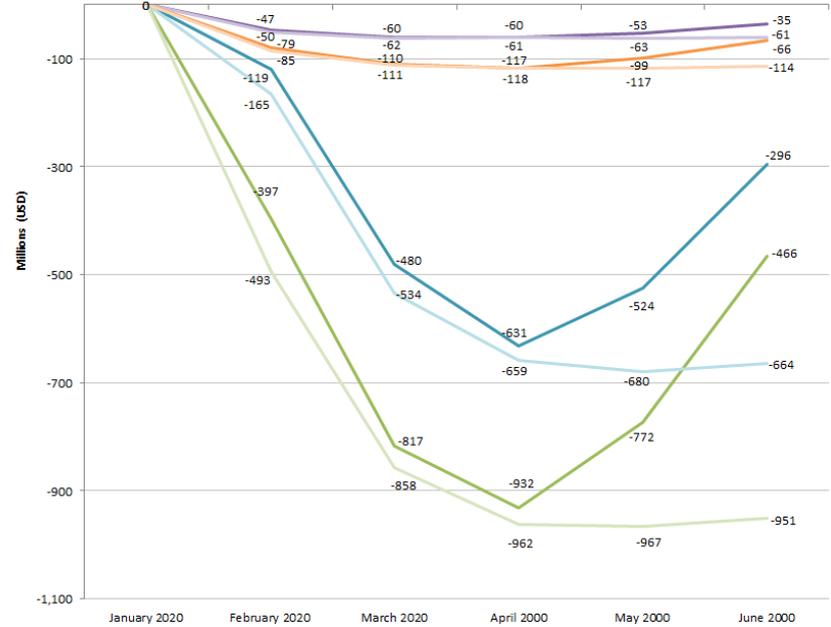
- Mainland international: calculated with an average fare of USD 250 per passenger based on traffic/financial reports of CA, CZ and MU with wide variations by destination (20% lower for LCCs);
- Regional: calculated with an average fare of USD 135 per passenger based on traffic/financial reports of CA, CZ and MU (20% lower for LCCs);
- Hong Kong and Taiwan International: calculated with an average fare of USD 287.6 per passenger with wide variations by destination (20% lower for LCCs);
- Macao International: calculated with an average fare of USD 172 per passenger (ditto);
- Cross-Strait: calculated with an average fare of USD 135 per passenger (ditto)



Break-down of revenue reduction by route



— Mainland International (Scenario 1)
 — (Scenario 2)
 — Regional (Scenario 1)
 — (Scenario 2)



— International (Hong Kong SAR, Scenario 1)
 — (Scenario 2)
 — International (Macao SAR, Scenario 1)
 — (Scenario 2)
 — International (Taiwan Province, Scenario 1)
 — (Scenario 2)
 — Cross-strait (Scenario 1)
 — (Scenario 2)



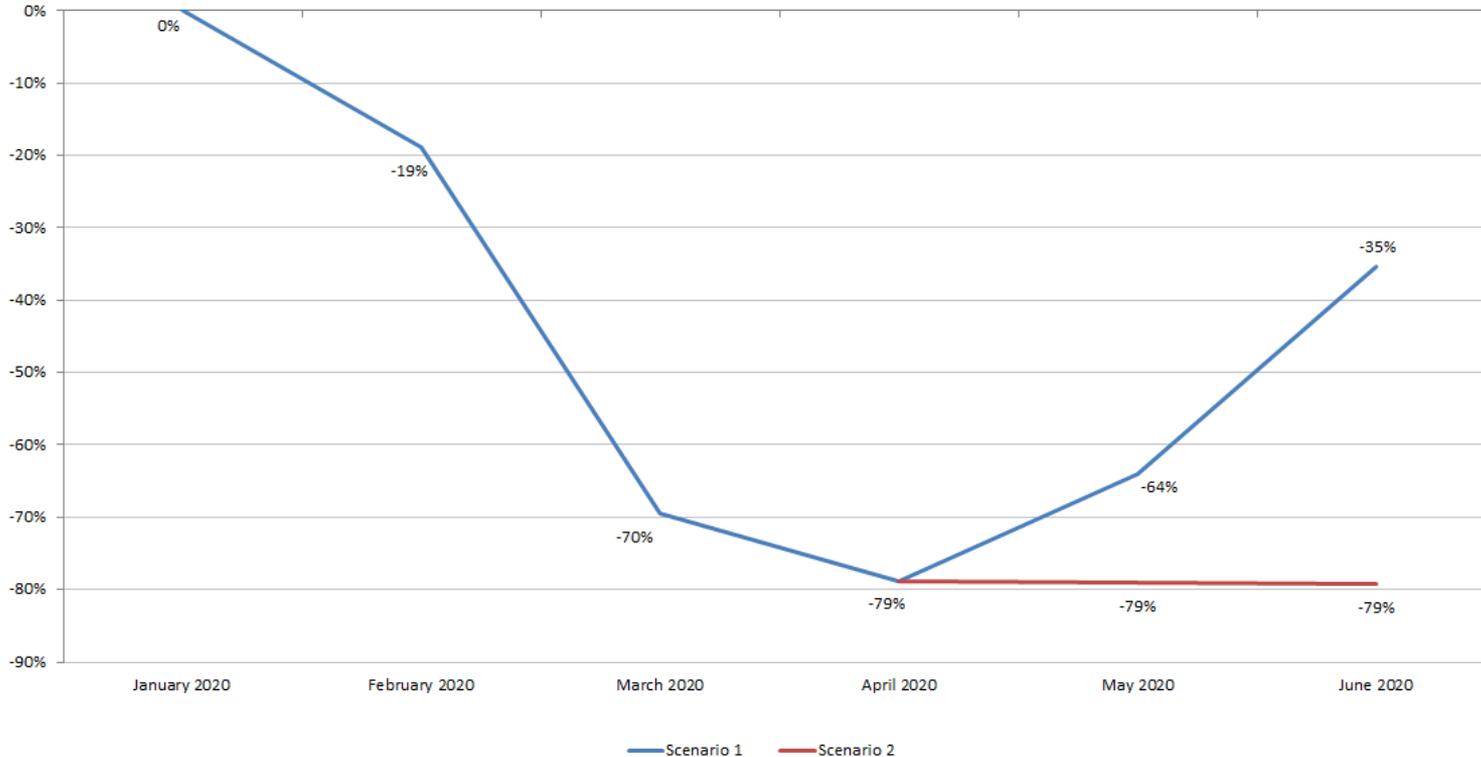
Republic of Korea

The estimates indicate the impact in terms of scheduled international passenger traffic from/to Republic of Korea during first half 2020 compared to originally-planned:

- Overall reduction of **44 to 54% of seats offered by airlines**
- Overall reduction of **22 to 28 million passengers**
- Approx. **USD 4.5 to 5.6 billion potential loss** of gross operating revenues of airlines



44 to 54 % seat capacity reduction in first half 2020 from Baseline

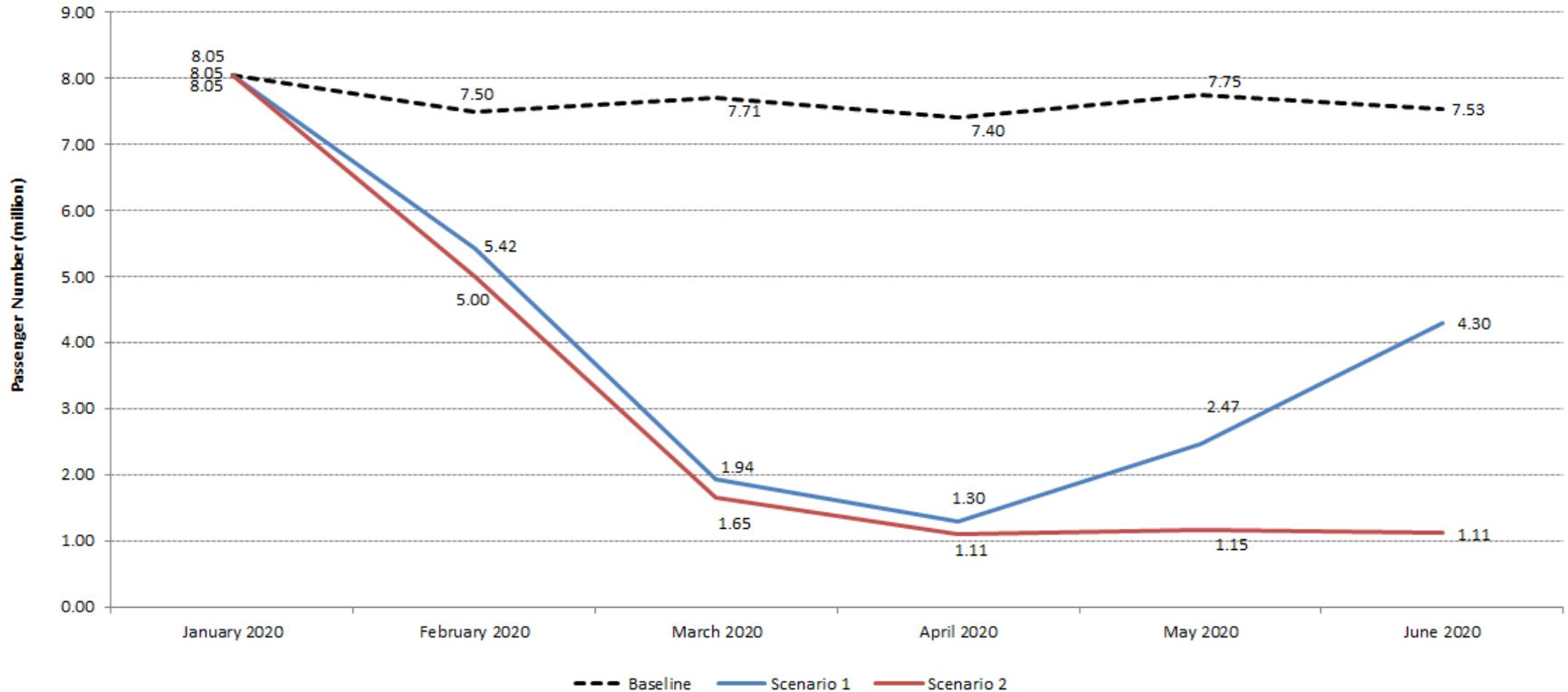


COVID-19 has started to impact airline operations from late February 2020 (except China routes)

Note: Some capacity change was announced and implemented before COVID-19 outbreak

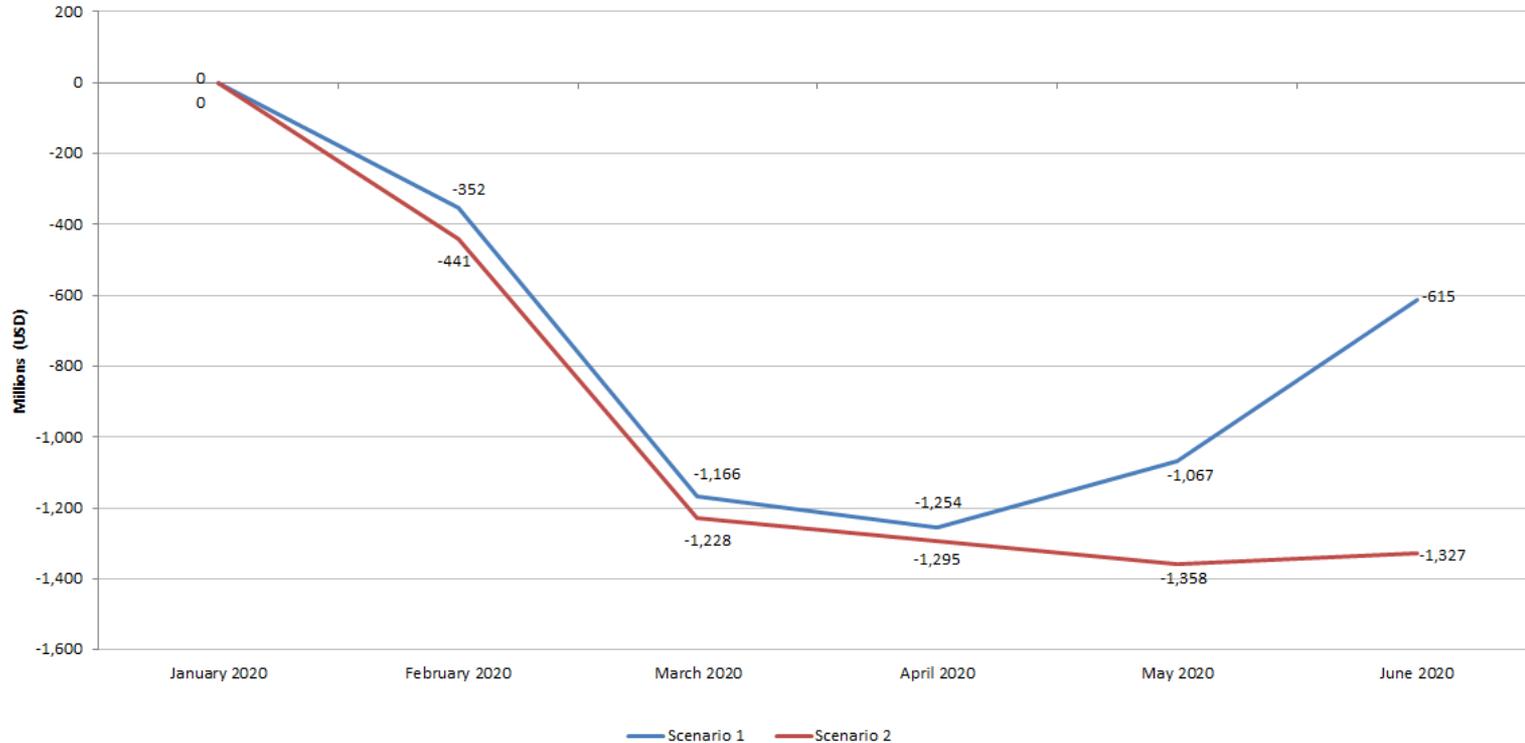


22 to 28 million passenger reduction in first half 2020 compared to Baseline





Approx. USD 4.5 to 5.6 billion loss of airline revenues in first half 2020 compared to Baseline



Note: calculated with an average fare ranging from USD 155 to 485 by destination (20% lower for LCCs)



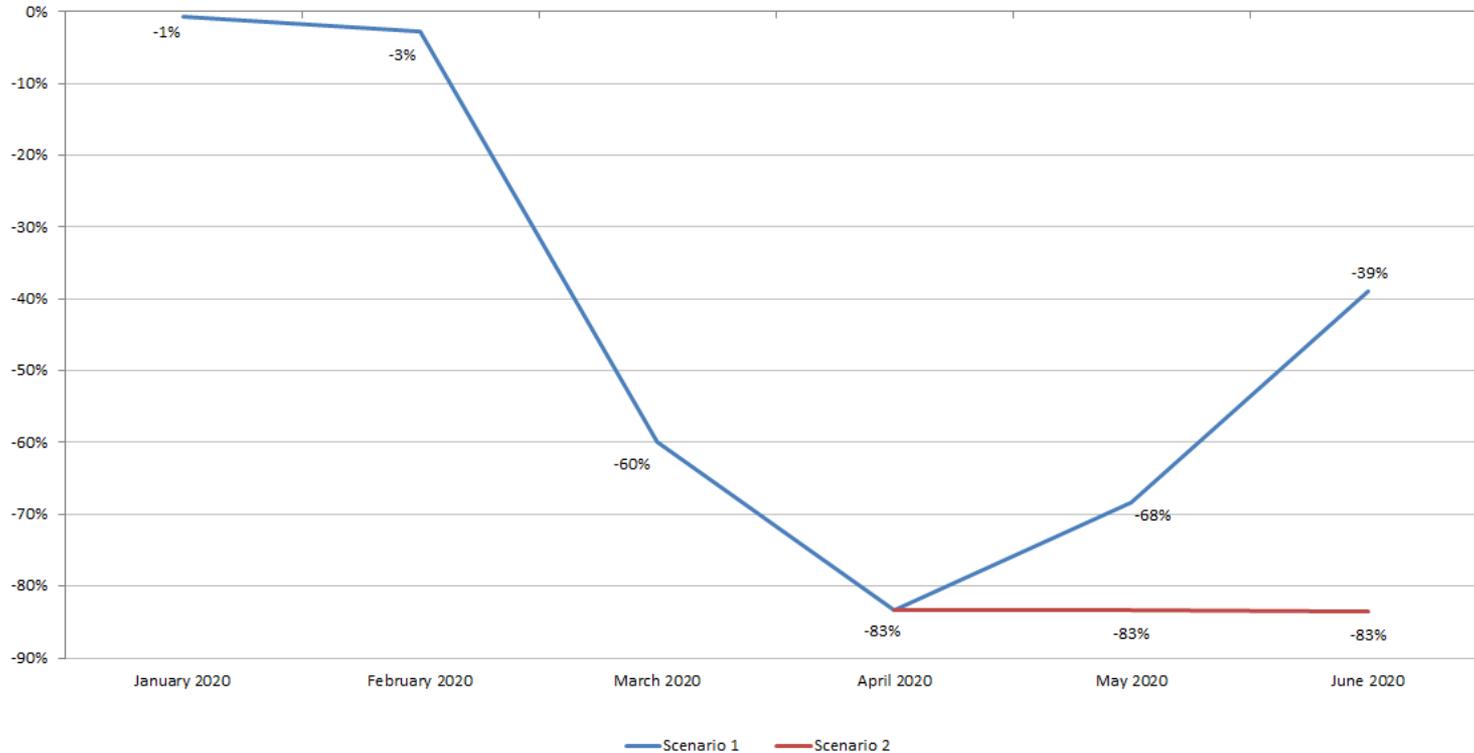
Italy

The estimates indicate the impact in terms of scheduled international passenger traffic from/to Italy during first half 2020 compared to originally-planned:

- Overall reduction of **46 to 58% of seats offered by airlines**
- Overall reduction of **31 to 39 million passengers**
- Approx. **USD 3.8 to 4.8 billion potential loss** of gross operating revenues of airlines



46 to 58 % seat capacity reduction in first half 2020 from Baseline

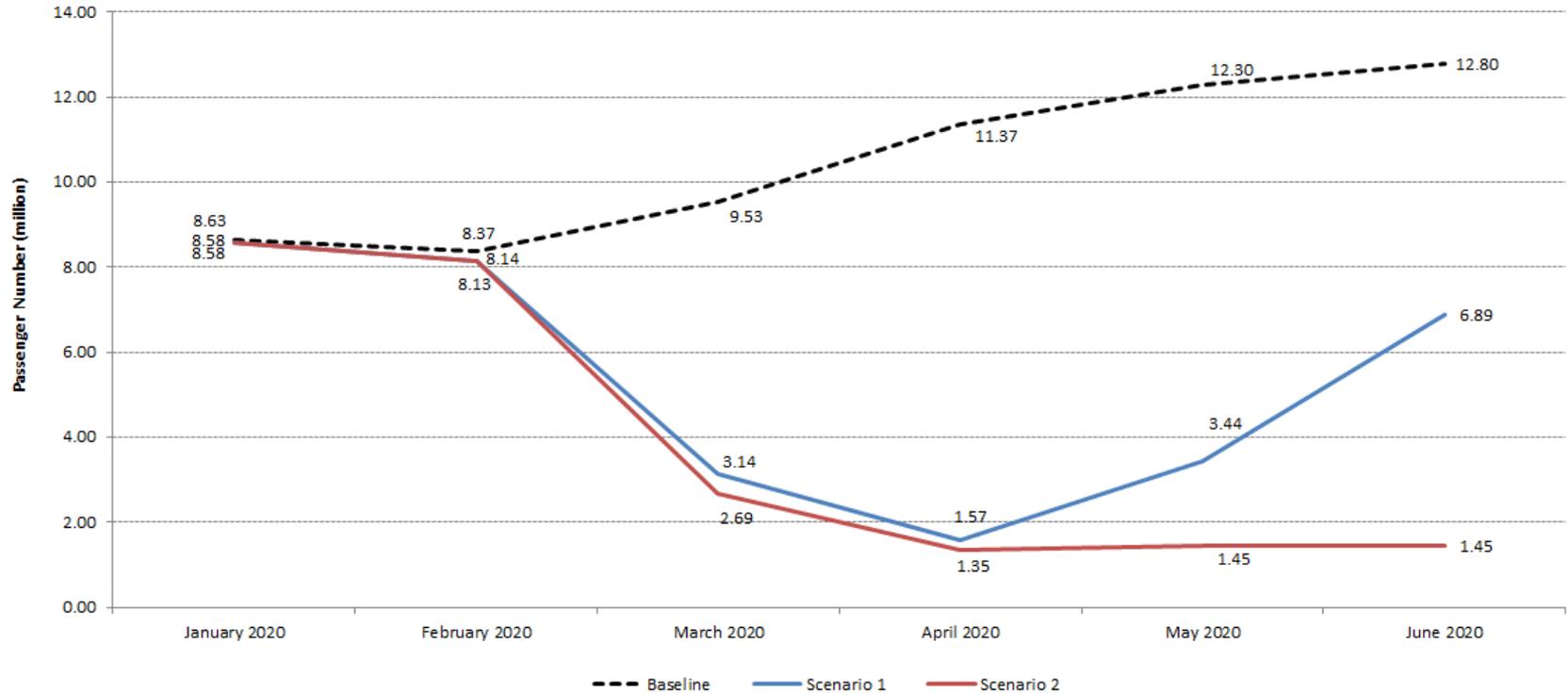


COVID-19 has started to impact airline operations from late February 2020 (except China routes)

Note: Some capacity change was announced and implemented before COVID-19 outbreak

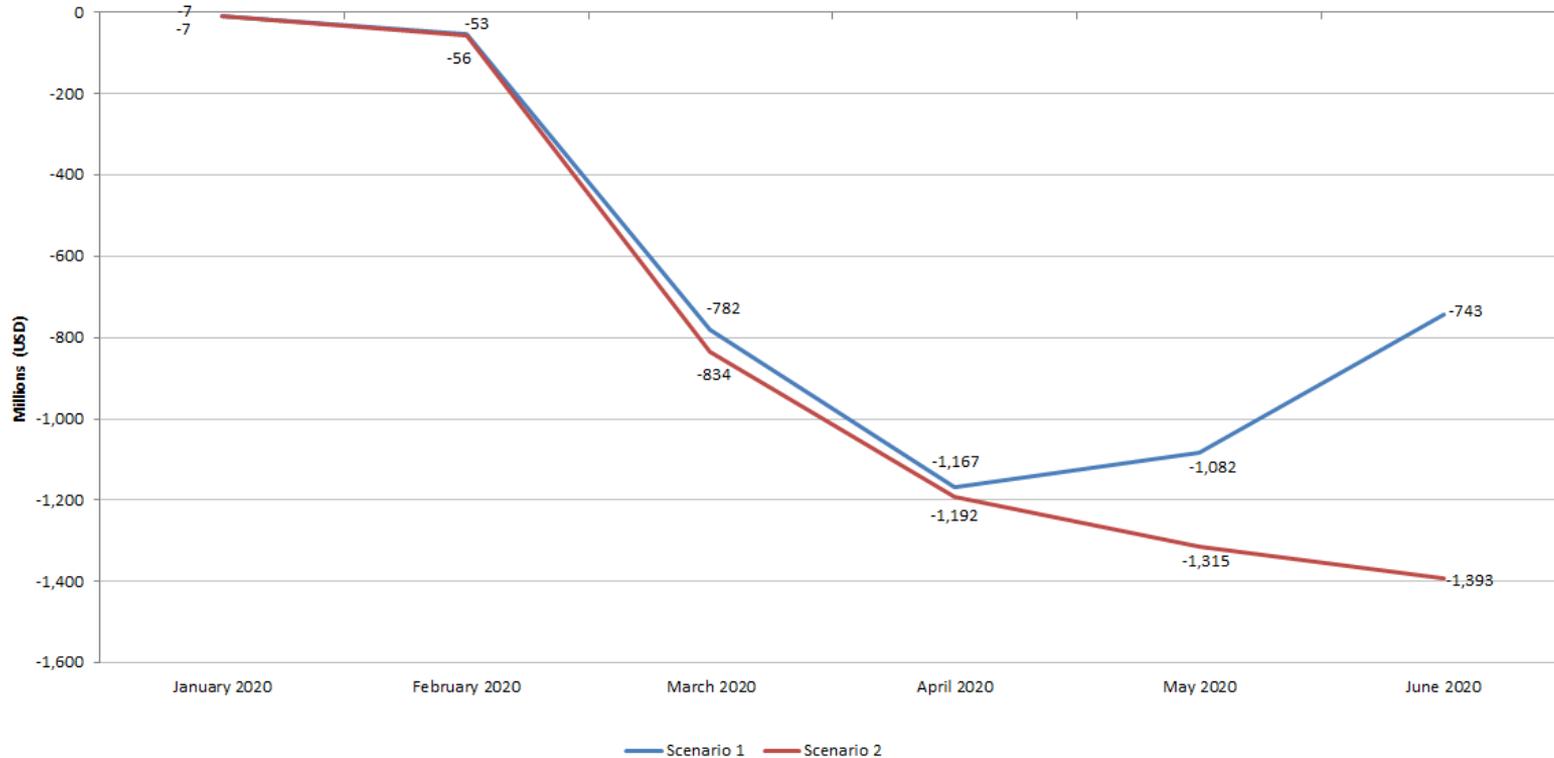


31 to 39 million passenger reduction in first half 2020 compared to Baseline





Approx. USD 3.8 to 4.8 billion loss of airline revenues in first half 2020 compared to Baseline



Note: calculated with an average fare ranging from USD 60 to 485 by destination (20% lower for LCCs)



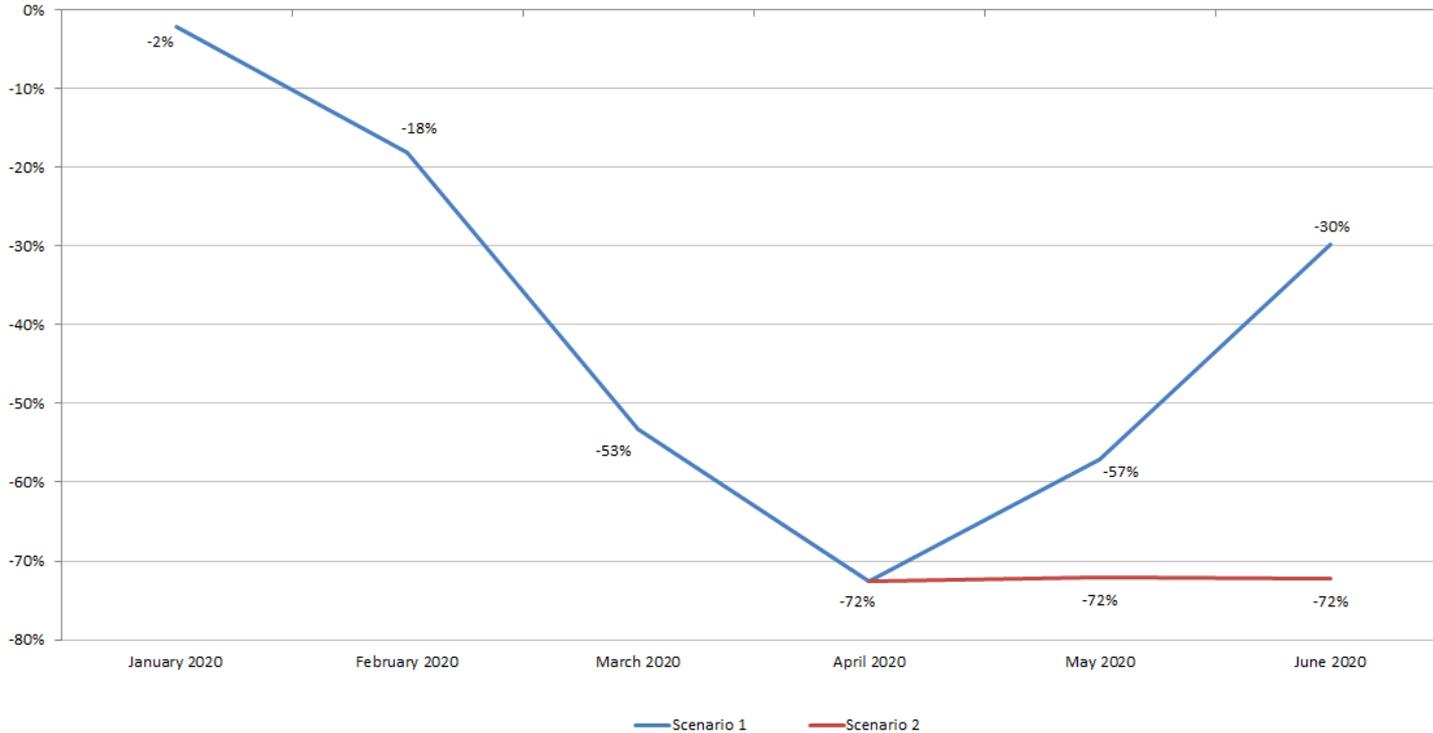
Iran (Islamic Republic of)

The estimates indicate the impact in terms of scheduled international passenger traffic from/to Italy during first half 2020 compared to originally-planned:

- Overall reduction of **39 to 49% of seats offered by airlines**
- Overall reduction of **2.2 to 2.8 million passengers**
- Approx. **USD 350 to 450 million potential loss** of gross operating revenues of airlines



39 to 49 % seat capacity reduction in first half 2020 from Baseline

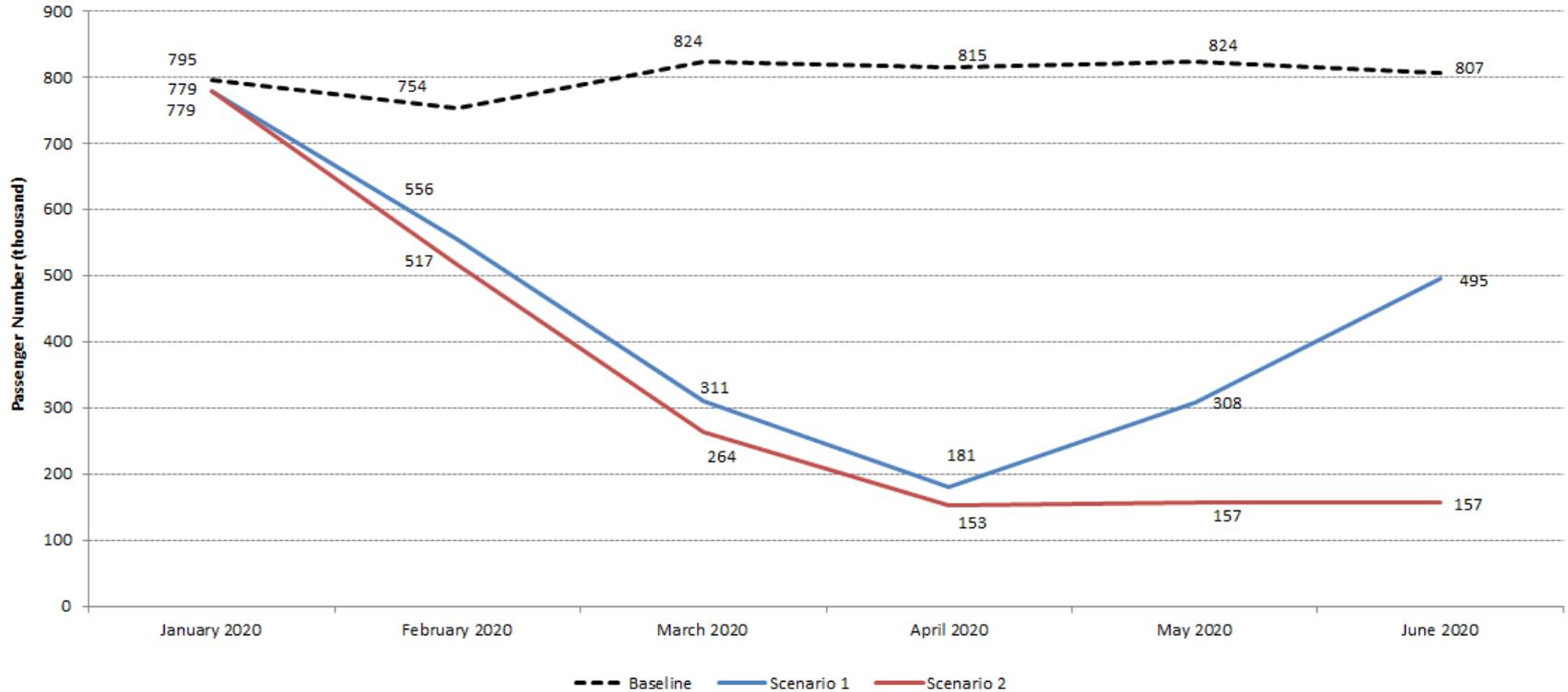


COVID-19 has started to impact airline operations from late February 2020 (except China routes)

Note: Some capacity change was announced and implemented before COVID-19 outbreak

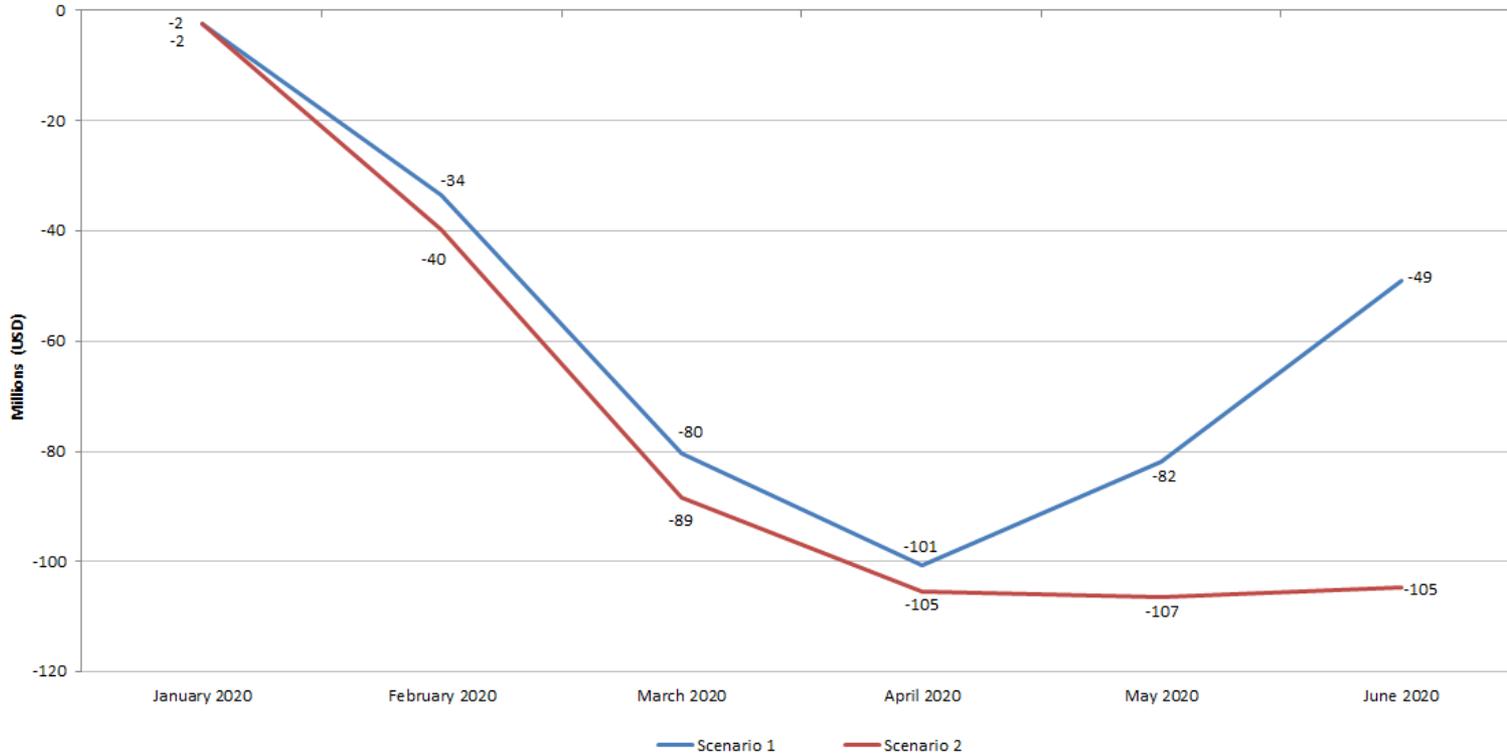


2.2 to 2.8 million passenger reduction in first half 2020 compared to Baseline





Approx. USD 350 to 450 million loss of airline revenues in first half 2020 compared to Baseline



Note: calculated with an average fare ranging from USD 105 to 370 by destination (20% lower for LCCs)



Appendix: Scenario assumptions

Assumptions (Mainland Intl and Regional)	Baseline (Originally-planned)		Scenario 1 (V-shaped)		Scenario 2 (U-shaped)	
	Seat capacity reduction from originally-planned	Passenger load factor	Seat capacity reduction from originally-planned	Passenger load factor	Seat capacity reduction from originally-planned	Passenger load factor
January 2020	0%	80% (except 78% Chinese carriers, 87% all LCCs)	actual (estimated)	same as Baseline	actual (estimated)	same as Baseline
February 2020	0%	80% (except 78% Chinese carriers, 87% all LCCs)	actual (estimated)	15 percentage points lower than Baseline (except 30 points lower for Regional)	actual (estimated)	25 percentage points lower than Baseline (except 40 points lower for Regional)
March 2020	0%	80% (except 78% Chinese carriers, 87% all LCCs)	actual (estimated)	15 percentage points lower than Baseline (except 30 points lower for Regional)	actual (estimated)	25 percentage points lower than Baseline (except 40 points lower for Regional)
April 2020	0%	80% (except 78% Chinese carriers, 87% all LCCs)	maximum 10 percentage points more contraction from March reduction rate, subject to update by actual	15 percentage points lower than Baseline (except 30 points lower for Regional)	same reduction rate as March, subject to update by actual	25 percentage points lower than Baseline (except 40 points lower for Regional)
May 2020	0%	80% (except 78% Chinese carriers, 87% all LCCs)	15 percentage points improvement from April reduction rate, subject to update by actual	10 percentage points lower than Baseline	same reduction rate as April, subject to update by actual	25 percentage points lower than Baseline (except 40 points lower for Regional)
June 2020	0%	80% (except 78% Chinese carriers, 87% all LCCs)	30 percentage points improvement from May reduction rate, subject to update by actual	10 percentage points lower than Baseline	same reduction rate as May, subject to update by actual	25 percentage points lower than Baseline (except 40 points lower for Regional)



China (Hong Kong SAR, Macao SAR, Taiwan Province and Cross-Strait)

Assumptions (Hong Kong SAR et al)	Baseline (Originally-planned)		Scenario 1 (V-shaped)		Scenario 2 (U-shaped)	
	Seat capacity reduction from originally-planned	Passenger load factor	Seat capacity reduction from originally-planned	Passenger load factor	Seat capacity reduction from originally-planned	Passenger load factor
January 2020	0%	80% (except 87% all LCCs)	actual (estimated)	same as Baseline	actual (estimated)	same as Baseline
February 2020	0%	80% (except 87% all LCCs)	actual (estimated)	15 percentage points lower than Baseline (except 8 and 30 points lower for Taiwan Province and Cross- strait, respectively)	actual (estimated)	25 percentage points lower than Baseline (except 13 and 40 points lower for Taiwan Province and Cross- strait, respectively)
March 2020	0%	80% (except 87% all LCCs)	actual (estimated)	15 percentage points lower than Baseline (except 30 points lower for Cross-strait)	actual (estimated)	25 percentage points lower than Baseline (except 40 points lower for Cross-strait)
April 2020	0%	80% (except 87% all LCCs)	maximum 10 percentage points (except 25 point for Taiwan) more contraction from March reduction rate, subject to update by actual	15 percentage points lower than Baseline (except 30 points lower for Cross-strait)	same reduction rate as March, subject to update by actual	25 percentage points lower than Baseline (except 40 points lower for Cross-strait)
May 2020	0%	80% (except 87% all LCCs)	15 percentage points improvement from April reduction rate, subject to update by actual	10 percentage points lower than Baseline	same reduction rate as April, subject to update by actual	25 percentage points lower than Baseline (except 40 points lower for Cross-strait)
June 2020	0%	80% (except 87% all LCCs)	30 percentage points improvement from May reduction rate, subject to update by actual	10 percentage points lower than Baseline	same reduction rate as May, subject to update by actual	25 percentage points lower than Baseline (except 40 points lower for Cross-strait)

Assumptions (Korea)	Baseline (Originally-planned)		Scenario 1 (V-shaped)		Scenario 2 (U-shaped)	
	Seat capacity reduction from originally-planned	Passenger load factor	Seat capacity reduction from originally-planned	Passenger load factor	Seat capacity reduction from originally-planned	Passenger load factor
January 2020	0%	80% (except 78% Chinese carriers, 87% all LCCs)	actual (estimated)	same as Baseline	actual (estimated)	same as Baseline
February 2020	0%	80% (except 78% Chinese carriers, 87% all LCCs)	actual (estimated)	8 percentage points lower than Baseline (except 15 points lower for China/Hong Kong/Macao SARs)	actual (estimated)	13 percentage points lower than Baseline (except 25 points lower for China/Hong Kong/Macao SARs)
March 2020	0%	80% (except 78% Chinese carriers, 87% all LCCs)	actual (estimated)	15 percentage points lower than Baseline	actual (estimated)	25 percentage points lower than Baseline same as Baseline
April 2020	0%	80% (except 78% Chinese carriers, 87% all LCCs)	maximum 10 percentage points more contraction from March reduction rate, subject to update by actual	15 percentage points lower than Baseline	maximum 10 percentage points more contraction from March reduction rate, subject to update by actual	25 percentage points lower than Baseline
May 2020	0%	80% (except 78% Chinese carriers, 87% all LCCs)	15 percentage points improvement from April reduction rate, subject to update by actual	10 percentage points lower than Baseline	same reduction rate as April, subject to update by actual	25 percentage points lower than Baseline
June 2020	0%	80% (except 78% Chinese carriers, 87% all LCCs)	30 percentage points improvement from May reduction rate, subject to update by actual	10 percentage points lower than Baseline	same reduction rate as May, subject to update by actual	25 percentage points lower than Baseline



Assumptions (Italy)	Baseline (Originally-planned)		Scenario 1 (V-shaped)		Scenario 2 (U-shaped)	
	Seat capacity reduction from originally-planned	Passenger load factor	Seat capacity reduction from originally-planned	Passenger load factor	Seat capacity reduction from originally-planned	Passenger load factor
January 2020	0%	80% (except 78% Chinese carriers, 87% all LCCs)	actual (estimated)	same as Baseline	actual (estimated)	same as Baseline
February 2020	0%	80% (except 78% Chinese carriers, 87% all LCCs)	actual (estimated)	same as Baseline (except 15 and 8 percentage points lower for China/Hong Kong SAR/Taiwan and Korea/Iran, respectively)	actual (estimated)	same as Baseline (except 25 and 13 percentage points lower for China/Hong Kong SAR/Taiwan and Korea/Iran, respectively)
March 2020	0%	80% (except 78% Chinese carriers, 87% all LCCs)	actual (estimated)	15 percentage points lower than Baseline	actual (estimated)	25 percentage points lower than Baseline
April 2020	0%	80% (except 78% Chinese carriers, 87% all LCCs)	maximum 25 percentage points more contraction from March reduction rate, and will be updated by actual (estimated) once available	15 percentage points lower than Baseline	maximum 25 percentage points more contraction from March reduction rate, and will be updated by actual (estimated) once available	25 percentage points lower than Baseline
May 2020	0%	80% (except 78% Chinese carriers, 87% all LCCs)	15 percentage points improvement from April reduction rate, and will be updated by actual (estimated) once available	10 percentage points lower than Baseline	same reduction rate as April, and will be updated by actual (estimated) once available	25 percentage points lower than Baseline
June 2020	0%	80% (except 78% Chinese carriers, 87% all LCCs)	30 percentage points improvement from May reduction rate, and will be updated by actual (estimated) once available	10 percentage points lower than Baseline	same reduction rate as May, and will be updated by actual (estimated) once available	25 percentage points lower than Baseline

Assumptions (Iran)	Baseline (Originally-planned)		Scenario 1 (V-shaped)		Scenario 2 (U-shaped)	
	Seat capacity reduction from originally-planned	Passenger load factor	Seat capacity reduction from originally-planned	Passenger load factor	Seat capacity reduction from originally-planned	Passenger load factor
January 2020	0%	80% (except 78% Chinese carriers, 87% all LCCs)	actual (estimated)	same as Baseline	actual (estimated)	same as Baseline
February 2020	0%	80% (except 78% Chinese carriers, 87% all LCCs)	actual (estimated)	same as Baseline (except 15 and 8 percentage points lower for China and Korea, respectively)	actual (estimated)	same as Baseline (except 25 and 13 percentage points lower for China and Korea, respectively)
March 2020	0%	80% (except 78% Chinese carriers, 87% all LCCs)	actual (estimated)	15 percentage points lower than Baseline	actual (estimated)	25 percentage points lower than Baseline
April 2020	0%	80% (except 78% Chinese carriers, 87% all LCCs)	maximum 20 percentage points more contraction from March reduction rate, and will be updated by actual (estimated) once available	15 percentage points lower than Baseline	maximum 20 percentage points more contraction from March reduction rate, and will be updated by actual (estimated) once available	25 percentage points lower than Baseline
May 2020	0%	80% (except 78% Chinese carriers, 87% all LCCs)	10 percentage points improvement from April reduction rate, and will be updated by actual (estimated) once available	10 percentage points lower than Baseline	same reduction rate as April, and will be updated by actual (estimated) once available	25 percentage points lower than Baseline
June 2020	0%	80% (except 78% Chinese carriers, 87% all LCCs)	30 percentage points improvement from May reduction rate, and will be updated by actual (estimated) once available	10 percentage points lower than Baseline	same reduction rate as May, and will be updated by actual (estimated) once available	25 percentage points lower than Baseline



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<https://www.icao.int/sustainability/Pages/Economic-Impacts-of-COVID-19.aspx>

<https://www.icao.int/Newsroom/Pages/Economic-impact-estimates-due-to-COVID-19-travel-bans.aspx>

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